Monitoring of the central venous pressure as a reflection of the right atrial pressure is a widely accepted technique in the control of infusion therapy for conditions such as shock states, haemorrhage and fluid deprivation. The equipment required to make the measurements is cheap and readily available, and catheterization is usually a relatively simple procedure.

An extensive literature has accumulated on the technique itself and on experience of its use. It has frequently been emphasized that it is unwise to consider the central venous pressure reading in isolation from the time-honoured clinical observations, such as the colour and warmth of the skin, the rate and volume of the arterial pulse and its pressure, the degree of filling of the jugular and peripheral veins, and the clinical state of hydration.

One suspects that in the current enthusiasm for this measurement, the central venous pressure has often been mistakenly regarded as the only proper guide to fluid replacement therapy. In a number of disease states, such as septic shock and burns, cardiac function and venous tone may alter in such a way that the customary relationship between central venous pressure and blood volume is much modified. In such instances sole reliance on the central venous pressure measurement can be misleading.

There are practical problems relating to the location of the tip of the catheter and several methods have been described to ensure accurate positioning. On the other hand, when serial measurements are required precise location is not so important provided that the position of the tip of the catheter does not change appreciably.

Special problems arise in the newborn. Central venous pressure monitoring, undertaken by catheterization of the umbilical vein is used extensively in the nursery, the intensive care unit, and the operating theatre. Radiographic verification of the position of the catheter tip is essential if the risk of entry into the liver is to be avoided. Should this occur, not only is the value of the measurement rendered meaningless but there also arises the serious hazard of massive liver necrosis due to use of the catheter for alkali therapy.

The zero reference point should be constant. There are obvious difficulties in making satisfactory pressure readings when the patient changes position, as when he is nursed in semi-recumbency and slips down the bed.

Serious and even fatal complications have followed central venous catheterization. These include, for example, cardiac arrhythmias, pneumothorax, hydrothorax, air embolism and subclavian artery puncture, in addition to complications common to other techniques of cannulation, such as sepsis, thrombosis, and catheter embolism. Some of these may not be apparent for many hours or even days after insertion of the catheter and must be considered if there is unexpected or unexplained deterioration in the patient's condition. It is plainly important to record full details of the cannulation procedure.

Monitoring of central venous pressure is a procedure of great value and, wisely used, offers an important advance in the treatment of many ill patients. It is nevertheless well to remember that it should be used with discretion and with an appreciation of its advantages and limitations.